# SPECTROSCOPIA MOLECULAR

UN PERIODICO DE NOVAS E INFORMATIONES DE INTERESSE E VALOR AL SPECTROSCOPISTAS

Publicate in interlingua per Forrest F. Cleveland, Professor de Physica, Instituto Technologic de Illinois, Chicago 16. Consiliero linguistic, Dr. A. Gode, Division de Interlingua, Science Service, 80 East 11th St., New York 3. 12 numeros per anno, $2.25. Le periodico depende de receptas financiari ab illes qui beneficia de illo.

## SYMPOSIO COLUMBUS SUPER LE STRUCTURA MOLECULAR E LE SPECTROSCOPIA

LE SYMPOSIO annue super le structura molecular e le spectroscopia va esser tenite al Universitate Ohio State in Columbus ab le 15 al 19 de junio.

Problemas in re le spectroscopia electronic essera discutite in le prime parte del septimana pro permitter al spectroscopistas electronic assister al assemblea in Boulder alicun dies plus tarde. Le spectroscopia infrarubie e le spectroscopia a frequentias radionic tunc sequera plus tarde in le septimana. Le matinos essera dedicate al discursos invitate e le postmeridies al discursos contribuite. Como in annos passate, un programma con summarios del discursos contribuite essera disponibile.

Le homines pote residar in Stradley Hall, le feminas in Siebert Hall, ambes del quales es dormitorios recentemente completate. Le costo es $5.00 per die pro singule occupantia, $3.50 pro duple occupantia. Le cameras essera disponibile ab le matino de lunedi usque a 18 horas venerdi.

Le dinar previemente tenite in le vespere de mercuridi va esser reimplaciate per un assemblea minus formal.

Le discursos invitate essera:

-- L u n e d i --

• Spectroscopia ultraviolette in vacuo, P. G. WILKINSON;

• Spectros electronic de ions de metallos de transition in crystallos, D. S. McCLURE;

• Alicun problemas in re le structuras electronic de catenas conjugate, Y. OOSHIKA;

• Le regulas de Walsh, C. E. WULFMAN;

• Revista de functiones de unda pro systemas con duo electrones, C. C. J. ROOTHAAN;

-- M a r t e d i --

-- Resonantia de spin electronic in systemas biochimic e biologic, B. COMMONER;

-- Spectros emissionic de radicales trappate, H. P. BROIDA;

-- Effectos de campos electronic in le spectros vibrational, C.W. PETERS;

### GEMMA DE SAGESSA

IL HA nulle dubita que tanto le grande scientistas como etiam le grande poetas es artistas, movite principalmente per le satisfaction esthetic derivate ab lor labor.

-- F. R. MOULTON.

. . . SYMPOSIO COLUMBUS . . . . .

-- M e r c u r i d i --

• Momento angular orbital generalisate e le oscillator quanto-mechanic de degeneration N, J. D. LOUCK;

• Computation del constantes del rotor asymmetric ex le momentos de energia, P. M. PARKER e L. C. BROWN;

• Le function de momento dipolic pro moleculas diatomic, H. SALWEN e J. TRISCHKA;

-- J o v e d i --

-- Stato currente de alicun problemas spectroscopic de interesse astrophysic, A. McKELLAR;

-- Alicun spectros infrarubie de hydrocarburos chimisorbite super metallos supportate super silice, N. SHEPPARD;

-- Mesurationes de reflexion in le spectro infrarubie, J. LECOMTE;

-- V e n e r d i --

* Recente studios in le spectroscopia Raman a alte resolution, H. L. WELSH;

* Stato presente del detectores infrarubie photoconductive, H. LEVINSTEIN;

* Modulation interferometric in le infrarubio remote al Universitate Johns Hopkins, G. A. VANASSE. ô

## STRUCTURA DE $C_{10}Cl_{12}$

LE MOMENTO dipolic e le spectros infrarubie, Raman, e ultraviolette ha essite obtenite per D. H. Zijp e H. Gerding (Univ. Amsterdam, Amsterdam-C, Hollanda; Rec. trav. chim. 77 (1958) 682-91) e structuras possibile esseva discutite.

Duo factos significative emergeva ex iste observationes:

1) Il ha nulle lineas Raman proxime a 1600 K (K = kayser = unda/cm), le qual indica que le molecula non contine un ligamine C=C; e

2) Le numero total de frequentias vibrational pro iste molecula complexe es comparativemente parve.

Le resultatos combinate indica le existentia de un structura caviate de symmetria $D_{2h}$ o $C_{2h}$, como proponite per McBee e al.

Calculationes approximative del numeros de undas correspondente al frequentias vibrational normal etiam esseva facite sur le base de un modello simplificate.

Le supra-mentionate factos 1 e 2 etiam esseva observate plure menses passate in le laboratorio del redactor per E. A. Piotrowski, sed le investigation es nondum completate e nulle resultatos esseva publicate. Es expectate que le spectros Raman e infrarubie del molecula affin $C_{10}Cl_{10}O$ essera obtenite ante le completion de iste labor.

Iste moleculas es multo interessante! ô

—•—

N. K. BRIDGE, del Association Britannic pro Recerca super Rayon a Manchester in Anglaterra, parlava le 1 de April a un colloquio juncte de chimia e physica al Instituto Technologic de Illinois in Chicago super "Reactivitate photochimic e le transitiones n — pi". Dr. Bridge, qui ha essite al Laboratorio National Argonne pro un intervallo de recerca, retornara tosto a Manchester. ô

—•—

SR. MIRIAM MICHAEL STIMSON, del Collegio Siena Heights a Adrian in Michigan, ha recipite un subvention de $2950 ab le Fundo pro Recerca de Petroleo del Societate Chimic American pro recerca super le "Spectros de Adductos de Urea". ô

—•—

RALF JUTVIK es le chef del nove Bureau de Venditas del Corporation Perkin-Elmer AB, Markmyntsgatan 9, Goeteborg, Sveda. ô

—•—

ROBERT C. GORE, un spectroscopista de grande experientia, nunc es disponibile pro le obtention de spectros infrarubie, lor interpretation, consilio in re patentes usante le spectroscopia, assistentia in le establimento de laboratorios, e le instruction

de personas in iste campo.

Dr. Gore faceva recerca in le spectroscopia infrarubie durante que ille esseva un membro del facultate del Universitate Illinois, e pro 15 annos passate ha essite chef del gruppo infrarubie del Laboratorios Stamford del Compania American Cyanamid.

Illes qui es interessate in obtener su servicios pote scriber a ille a Ridgefield, Connecticut, S. U. A., o telephonar LEwisboro (New York) 3-2079. ô

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INSTRUMENT NEWS, Vol. 10, No.2, 1959, (obtenibile gratis ab le Corporation Perkin-Elmer, Norwalk, Conn., S.U.A.) contine articulos super le nove spectrophotometro infrarubie, modello 221; un cella de absorption usabile a temperaturas varie; e un instrumento pro producer aperturas in fenestras de NaCl. ô

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"ANALYSE SPECTROCHIMIC Semi-quantitative", un articulo per A. J. Mitteldorf, es obtenibile ab Spex Industries, Scotch Plains, N. J., S. U. A. Etiam disponibile es un articulo per R. C. Carlston e A. J. Mitteldorf super "Le Stato Solide". ô

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APPLIED SPECTROSCOPY, Vol. 12, No.6, 1958, contine un articulo (ps. 163-6) per F. S. Parker (Depto. de Biochimia, Univ. Statal New York, Downstate Medical Center, Brooklyn, N.Y., S.U.A.) super le spectros infrarubie de alicun substantias biochimic in aqua.

Etiam includite es un description de un spectrometro infrarubie a grilliage de alte resolution pro uso in le region 3 a 6 µ. Isto esseva disveloppate per E. K. Plyler e L. R. Blaine del statounitese Bureau National de Standards (Washington, D.C.) ô

—•—

LE METALLOS del terras rar -- yttrium, lanthanum, cerium, praseodymium, neodymium, samarium, gadolinium, terbium, dysprosium, holmium, erbium, e ytterbium -- es obtenibile ab le Division de Recerca Chimic, Corporation Nuclear de America, Cassa Postal 431, 170 W. Providence St., Burbank, California, S. U. A. ô

—•—

STANDARDS de comparation metallurgic pro le rapide e precise determination de chromo, nickel, e manganese in acieros non-corrosive per le technicas de fluorescentia a radios X conventional es obtenibile ab le Corporation de Recerca Alloyd, 202 Arsenal St., Watertown 72, Mass., S. U. A. ô

—•—

UN NOVE TYPO de cella infrarubie va esser fabricate per le Connecticut Instrument Corporation (Wilton, Conn., S.U.A.). Isto es le cella de cavitate describite per Norman Jones in Spectrochimica Acta, Vol. 12, ps. 183-191.

Le cella es producite per facer ultrasonicamente un cavitate in un singule pecia de sal de rocca que es approximativemente le mesme in dimensiones e forma como le area de transmission de un cella de absorption infrarubie standard. Le specimen es introducite in le cavitate per uso de un syringa hypodermic post le qual le apertura es claudite per un tappo de polyethyleno.

Le facies del cella es findite, plus tosto que polite. Isto es plus economic e provide un plus grande protection contra le vapor de aqua in le atmosphera.

Le spissitate del specimenes continite in le cavitate pote esser 0,10, 0,20, 0,50, 1,0, 2,0, o 5,0 mm. Le area del specimen perpendicular al fasce de radiation es 4,5 x 15 mm e le precio es $12.50 plus porto. ô

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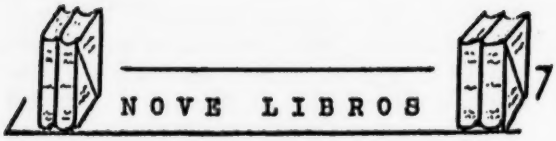
UN LABORATORIO pro applicationes spectrochimic ha essite establite per Baird-Atomic, Inc. (33 University Road, Cambridge 38, Mass., S.U.A.). Isto es sub le direction de Dr. Jason Saunderson, vice-presidente pro instrumentation chimic, e essera disponibile pro assister clientes con problemas analytic specialisate. ô




• Tables of Interatomic Distances and Configuration in Molecules and Ions (Tabulas de Distantias Interatomic e de Configurationes in Moleculas e Ions). Compilate per H. J. M. BOWEN, J. DONOHUE, D. G. JENKIN, O. KENNARD, P. J. WHEATLEY, e D. H. WHIFFEN. Redactor scientific, L. E. SUTTON; Redactor scientific assistente, D. G. JENKIN. Redactores general, A. D. MITCHELL e L. C. CROSS. The Chemical Society, Burlington House, London W.1; 1958. Publication special No. 11. 365 ps. 18 x 25 cm. £2. 2. 0.

INCLUDE INFORMATIONES obtenite per le spectroscopia (includente le resonantia magnetic nucleari), per le diffraction electronic, per le diffraction neutronic, e per le diffraction de radios X in re:

1) Distantias interatomic e angulos ligaminic.
   a) In moleculas e radicales gasose.
   b) In moleculas in solidos.
   c) In iones complexe in solidos.
2) Distantias interatomic in crystallos pro pares de iones simple que ha essite observate e reportate como moleculas o como pares de iones in le vapor (per exemplo, NaCl).
3) Distantias interatomic in reticulos adamantin quando illos es de interesse pro comparation con distantias trovate in moleculas plus simple (tal como le distantias C-C in diamante o graphite).
4) Distantias interatomic in le metallos.

Le tabulas assi concerne se primarimente con moleculas. Datos publicate usque al 31 de decembre 1955 es includite. Es sperate que un volumine supplementari de datos publicate inter iste tempore e le fin de 1959 pote esser compilate in le futuro proxime.

• Nuclear Magnetic Resonance (Resonantia Magnetic Nucleari). JOHN D. ROBERTS. McGraw-Hill Book Co., 330 W. 42nd St., New York 36; 1959. 118 ps. $6.00.

LE DISVELOPPAMENTO del spectroscopia de resonantia magnetic nucleari, sequente le discopertas initial de Purcell e Bloch in 1946, es nunc recognoscite como un del plus importante occurrentias del 50 annos passate pro le avantiamento del chimia organic. Iste technicas es de uso in le solution de plure problemas organic difficile.

Le objectivo de iste libro es presentar le elementos de iste subjecto in un forma convenibile pro uso practic per le chimistas organic.

Le exemplos de applicationes es principalmente ex le spectroscopia de resonantia protonic a alte resolution, sed le principios assi illustrate es de uso in le comprehension de altere typos del spectroscopia de resonantia magnetic nucleari.

Il ha multe bon illustrationes, plures del quales es in color pro facilitar un comprehension immediate. Etiam continite es resultatos in re le recerca structural, analytic, e cinetic que non ha essite publicate usque nunc.

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• La Constitution des Molécules (Le Constitution de Moleculas). J. BARRIOL. Gauthier-Villars, 55 Quai des Grands-Augustin, Paris VI^e, Francia; 1958. 258 ps. $5.25. 16 x 25 cm.

CONTINE LE lecturas date durante plure annos al Univ. Nancy. Discutite es le elementos del mechanica undic, le atom de Bohr, le ligamine ionic, le base del theoria del ligamine covalente, le datos experimental in re le ligamine chimic, le mesomerismo, le structura de complexos, le methodo de orbitales molecular, problemas de structuras del stato solide (le ligamine metallic), e le ligamines inter-molecular. Le curso esseva date como un preparation pro le certificato de Chimia-Physica.

• Dece Contos. ALEXANDER GODE-VON AESCH, seligite per John Lansbury. Storm Publishers, 80 E. 11th St., New York 3; 1959. 26 ps. Papiro. $1.50.

"DURANTE LE traduction in interlingua de grande massas de pesante materia technic, Dr. Gode ha trovate intervallos de tempore pro essayer iste nove idioma in un serie de delectabile schizzos, le quales monstra a nos que interlingua pote esser capriciose, subtil, tenere, e poetic." — Science News Letter 75(1959)220. ô

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• Linear Computations (Computationes Linear). P. S. DWYER. John Wiley and Sons, 440 4th Ave., New York 16;1951. 344 ps. 15 x 23 cm. $7.00.

SCRIBITE PRO assister illes qui debe trovar solutiones numeric de un gruppo de equationes linear simultanee. Un presentation mathematic general es usate plus tosto que un designate plus specificamente pro problemas statistic.

Le tractamento es simplificate per le uso de matrices. In multe casos, le provas per matrices de resultatos importante es multo concise, e frequentemente le resultatos de matrice describe adequatemente le methodos computational.

Emphase special es date al accumulation de errores quando le computationes involve numeros approximative.

De interesse special a spectroscopistas es le capitulos que tracta del inversion de matrices e operationes relatate. Istos da un methodo de radice quadrate pro le determination del matrice inverse $F^{-1}$ in calculationes que pertine al constantes del energia potential de un molecula polyatomic.

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• High Resolution Nuclear Magnetic Resonance (Resonantia Magnetic Nuclear a Alte Resolution). J. A. POPLE, W. G. SCHNEIDER, e H. J. BERNSTEIN. McGraw-Hill Book Co., 330 W. 42nd St. New York 36; 1959. 19 capitulos.

PRINCIPIOS E applicationes pro recercatores chimic e physic. ô

## REVISTAS

* Le rolo del spectroscopia in recerca thermonucleari. J. R. McNALLY, JR. (Laboratorio National Oak Ridge, Tenn., S. U. A.), J. Opt. Soc. Am. 49 (1959) 328-37.

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* Spectros infrarubie de moleculas chimisorbite. R. P. EISCHENS (Texaco Research Center, Beacon, N. Y., S.U. A.), J. Chem. Educ. 35 (1958) 385-91.

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* Reactiones isotherme de radicales libere studiate per le spectroscopia cinetic. R. G. W. NORRISH (Univ. Cambridge, Anglaterra), Proc. Chem. Soc. 1958, 247-55. 30 referentias.

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* Forma del nucleo. L.WILETS (Depto. de Physica, Univ. Washington, Seattle, Wash., S.U.A.), Science 129(1959)361-67. Isto varia ab spheric a ellipsoide e a vices al forma de un pira.

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* Spectros electronic molecular. G. HERZBERG (Consilio National de Recerca, Ottawa 2, Ontario, Canada), Ann. Rev. Phys. Chem. 9 (1958) 315-38. Coperi le anno 1957 con emphase super le moleculas simple e le structura fin.

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* Spectroscopia. M. K. WILSON e V.A. CRAWFORD (Depto. de Chimia, Univ. Tufts, Medford, Mass., S. U. A.) Ann. Rev. Phys. Chem. 9 (1958) 339-58. Spectros molecular pro 1957. ô

## ARTICULOS

— Intensitates in le spectros de moleculas. B. S. NEPORENT e N. G. BAKHSHIEV, Optika i Spektroskopiya 5 (1958) 634-45. Theoric. Effecto de solvente.

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— Le campo interne e le intensitates del bandas de absorption in solutiones. N. G. BAKSHIEV, Optika i Spektroskopiya 5 (1958) 645-54. Theoric.ô

## CALENDARIO de eventos spectroscopic

• JUNIO 1-4. Symposio spectroscopic. Association American de Spectrographos. Chicago. (G. W. Bailey, Borg-Warner Research Center, Des Plaines, Illinois, S. U. A.)

• JUNIO 8-12. Curso infrarubie. Instituto Polytechnic Brooklyn. (Doris Cattell, 333 Jay St., Brooklyn 1, N. Y., S. U. A.)

• JUNIO 9-11. Symposio international super le interferometria. Teddington. (Laboratorio National Physic, Teddington, Anglaterra.)

• JUNIO 15-19. Symposio spectroscopic. Columbus. (R. A. Oetjen, Depto. de Physica, Univ. Ohio State, Columbus 10, Ohio, S. U. A.)

• JUNIO 15-19. Conferentia super le carbon. Buffalo. (S. Mrozowski, Univ. Buffalo, Buffalo 14, N. Y., S. U. A.)

• JUNIO 15-20. Curso spectroscopic. Instituto Polytechnic Rensselaer. (S. E. Wiberley, Depto. de Chimia, Troy, N. Y., S. U. A.)

• JUNIO 21-27. Conferentia international super le mechanica quantic molecular. Boulder, Colorado. Participantes limitate. (R. G. Parr, Depto. de Chimia, Instituto Technologic Carnegie, Pittsburgh 13, Pa., S. U. A.)

• JUNIO 22-JULIO 3. Curso infrarubie. Instituto Technologic de Massachusetts. (J. M. Austin, Camera 7-103, Cambridge 38, Mass., S. U. A.)

• JULIO 27-AUGUSTO 7. Curso infrarubie. Univ. Minnesota. (B. Crawford, Depto. de Chimia, Minneapolis, Minn., S. U. A.)

• AUGUSTO 19-22. Curso super le chromatographia de gases. Univ. Fisk, Nashville, Tennessee, S. U. A.

• AUGUSTO 24-29. Curso infrarubie. Univ. Fisk. (N. Fuson, Depto. de Physica, Univ. Fisk, Nashville 8, Tenn.)

• AUGUSTO 25-29. Curso infrarubie. Collegio Canisius, Buffalo. (H. A. Szymanski, Collegio Canisius, Buffalo 8, New York, S. U. A.)

• SEPTEMBRE 7-12. Symposio del gruppo europee del spectroscopistas molecular. Bologna. (A. Mangini, Instituto de Chimia Industrial, Univ. Bologna, Viale Risorgimento 4, Bologna, Italia.)

• SEPTEMBRE 14-16. Symposio super le spectroscopia applicate. Ottawa. (W. O. Taylor, Depto. de Minas, Edificios Parlamentari, Toronto, Ontario, Canada.)

• SEPTEMBRE 14-19. Colloquio Spectroscopic international. Lucerne. (H. Guyer, Colloquio Spectroscopic International, Cassa Postal, Schaffhausen, Switza.)

• OCTOBRE 11-16. Symposio spectroscopic. San Francisco. Emission optic, radios X, photometria de flamma, resonantia magnetic, ultravioletto, e infrarubio. (R. J. Wirshing, Cassa Postal 188, North-End Station, Detroit 2, Michigan, S. U. A.) ô

## RECERCA A CALCUTTA

REIMPRESSIONES DE 4 articulos publicate in le Indian J. Phys. ha essite recipite ab le Depto. de Optica del Association Indian pro le Cultivation de Scientia (Calcutta 32). Istos es:

-- Spectros Raman de solutiones de o-chlorophenol, D. K. MUKHERJEE, 32 (1958) 192-7;

-- Spectros infrarubie de solutiones de o-chlorophenol e phenol, S. C. SIRKAR, A. R. DEB, e S. B. BANERJEE, 32 (1958) 345-54;

-- Absorption de microundas in solutiones de o-chlorophenol, T. J. BHATTACHARYYA, 32 (1958) 573-77; e

-- Spectros electronic polarisate de singule crystallos de p-dichlorobenzena, S. C. SIRKAR e T. N. MISRA, 33 (1959) 45-50.

In solutiones dilute in $CCl_4$, le gruppo OH ha libertate de rotation. ô

READY MAY 1959

# Infrared Absorption Spectra

## INDEX FOR 1945–1957

**By Herbert M. Hershenson**

*Baird-Atomic, Inc., Cambridge, Massachusetts*

*May 1959, 111 pp., 8½ x 11", $7.00*

THIS BOOK provides an index to the location of infrared absorption spectra of chemical compounds published in thirty-two representative American and European journals during the thirteen year period from 1945 through 1957.

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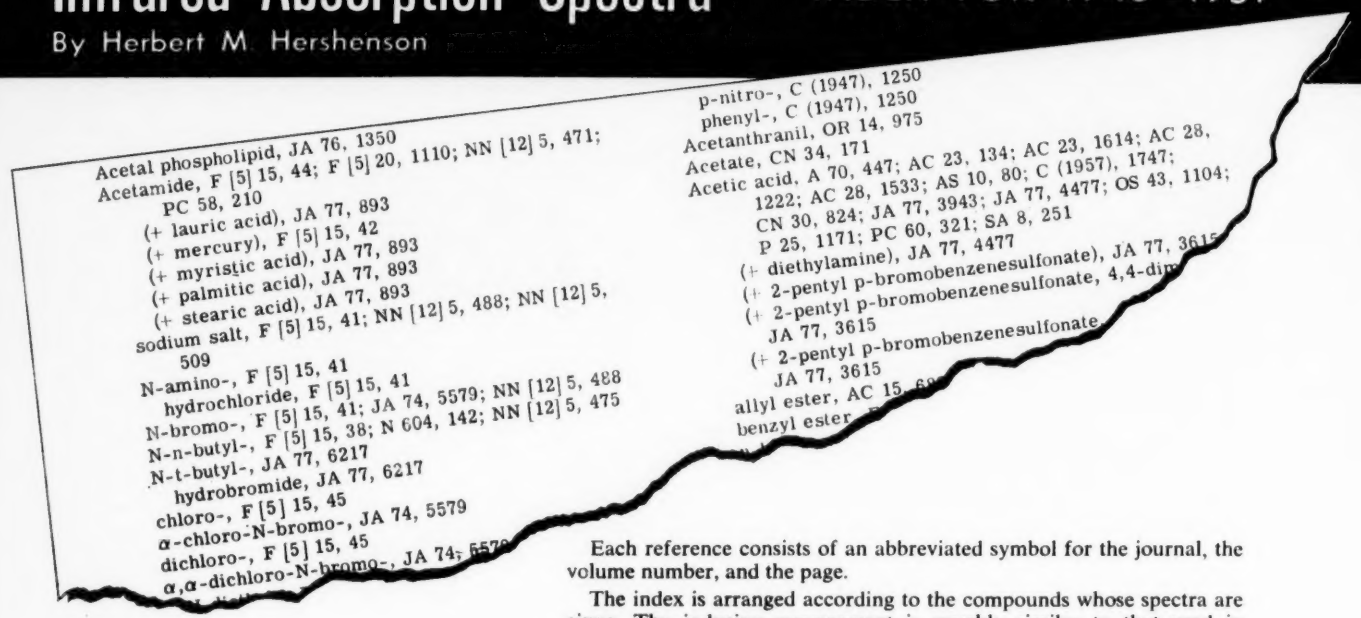
# Infrared Absorption Spectra

## INDEX FOR 1945–1957

By Herbert M. Hershenson


Acetal phospholipid, JA 76, 1350
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(+ 2-pentyl p-bromobenzenesulfonate), JA 77, 3615
(+ 2-pentyl p-bromobenzenesulfonate, 4,4-dim
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(+ 2-pentyl p-bromobenzenesulfonate
JA 77, 3615
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benzyl ester

Each reference consists of an abbreviated symbol for the journal, the volume number, and the page.

The index is arranged according to the compounds whose spectra are given. The indexing arrangement is roughly similar to that used in *Chemical Abstracts*.

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***PREVIOUSLY PUBLISHED:***

# Ultraviolet and Visible Absorption Spectra

## INDEX FOR 1930–1954

**By Herbert M. Hershenson**

*1956, 205 pp., 8½ x 11", $12.00*

***REVIEWS:***

"This book should prove useful not only in finding published spectra, but also as a source for colorimetric methods of inorganic analysis, for locating articles concerning a particular compound, and for correlating spectral data which might otherwise require actual experimentation."
*— Analytical Chemistry*

"This reference work will be found most useful to those who wish to study the visual or ultraviolet absorption spectra of organic compounds."
*— Journal of the Optical Society of America*

"This volume represents a tremendous undertaking. It also demonstrates many of the problems associated with any project for systematizing spectral data. Recognizing these, the author has taken the only path practical for one who does not have unlimited technical, financial, and clerical assistance. After a short preface and introduction, the author has listed by compound approximately 32,000 references by journal, volume, and page where spectra of that compound can be found. Each listing has a code indication of the spectral range covered.

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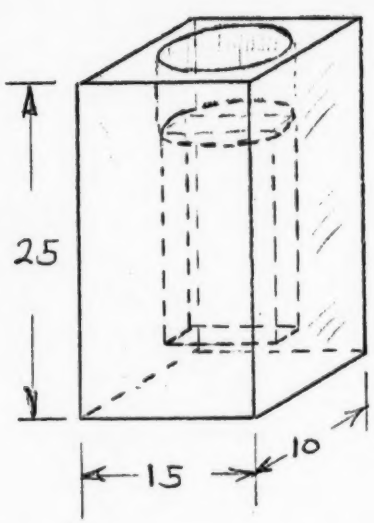


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